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Jerry J. Yester 26,528  
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Signature of Attorney

Case 6065

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of :  
Bohlen et al. : Group Art Unit 1751  
Serial No. 09/171,377 : Examiner L. Douyon  
Filed October 16, 1998 :  
For High Density Detergent-Making :  
Process Using a High Active  
Surfactant Paste Having Improved  
Stability

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JUN 04 2008  
TC 1700

BRIEF ON APPEAL

Commissioner for Patents

Washington, D.C. 20231

Dear Sir:

Enclosed, pursuant to 37 CFR 1.192(a), is Appellants' brief on Appeal for the above application. The Brief is being forwarded in triplicate.

Please charge the fee of \$310.00 pursuant to 37 CFR 1.17(c) to Deposit Account No. 16-2480 for the filing of the brief in support of an appeal. The Commissioner is also authorized to charge any additional fees which may be required to this account. A duplicate copy of this sheet is enclosed.

Respectfully submitted

By Brian M. Bolam  
Brian M. Bolam  
Attorney for Applicant(s)  
Registration No. 37,513  
(513) 627-7533

May 16, 2001  
(JJY/6065 BriefonAppealTrans.doc)  
(Last Revised 3/29/01)



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Jerry J. Yetter 26,598  
Name of Attorney Registration No.  
Signature of Attorney

Case 6065

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENTS APPEALS AND INTERFERENCES

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BRIEF ON APPEAL

Box AF  
Attn: Board of Appeals  
Assistant Commissioner for Patents  
Washington, D.C. 20231  
Dear Sir:

This is Appellants' Brief relating to an appeal from the March 8, 2000, Final Rejection in the above-identified application. The Notice of Appeal was deposited with a Certificate of Mailing in the United States Postal Service in First Class Mail and addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231 on June 22, 2000, and was noted as received in the USPTO on June 27, 2000.

I. REAL PARTY IN INTEREST

The real party in interest for the present application Serial No. 09/171,377 is The Procter & Gamble Company of Cincinnati, Ohio, by virtue of the Assignment recorded on March 2, 1999, at Reel 9804, Frame 0612.

## **II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences, known to Appellants' undersigned legal representative, which will directly affect, or be directly affected by, or have a bearing on, the Board's decision in the present Appeal.

## **III. STATUS OF THE CLAIMS**

In the Notice of Appeal, Appellants appealed the final rejection under 35 U.S.C. §103 of all pending Claims 1 and 3-16. A complete copy of the appealed claims is set forth in the Appendix.

## **IV. STATUS OF AMENDMENTS**

All amendments presented in the case have been entered. However, there are some formal matters still outstanding. Due to an oversight, the case does not contain an Abstract. Moreover, Claim 12 stands objected to under 37 CFR 1.75(c) as being of improper dependent form. The Examiner's position is that the limitations of Claim 12 have been incorporated into Claim 11; hence, Claim 12 should be cancelled. These formalities can be corrected separately, without affecting the instant Appeal.

## **V. SUMMARY OF THE INVENTION**

The invention is based on the discovery that the very concentrated surfactant "pastes" used in the manufacture of detergent compositions can, on storage, undergo chemical and rheological changes which make them unsuitable for use. Thus, in a large-scale manufacturing process where large volumes of such "pastes" are made and stored prior to use in the manufacture of commercial detergent products, such changes must be avoided. The present invention addresses this problem by adjusting the pH of the paste, by minimizing the presence in said paste of materials which can react with acid to form gas and by controlling the temperature.

According to independent Claim 1, the paste contains from about 70% to about 95% of surfactant (i.e., is very concentrated), has a pH of at least about 10 provided by an excess amount of alkali metal hydroxide, and is substantially free of gas forming materials listed as carbonates, percarbonates and perborates. The claim is presented as an

overall process wherein the processability of the paste is maintained in steps (a) and (b) and wherein the paste is subsequently agglomerated to provide a final detergent product in steps (c), (d) and (e).

Claims 3-10 all depend from Claim 1.

Claim 3 specifies the metal hydroxide used in the paste.

Claim 4 specifies the surfactants used in the paste.

Claim 5 specifies the agglomerating step used to make the final product.

Claim 6 specifies the builder used in the final product.

Claim 7 specifies the term of stability of the paste.

Claim 8 further specifies the term of stability.

Claim 9 specifies the "hold" temperature of the paste.

Claim 10 specifies the absence of acidic contaminants in the paste.

Claim 11 is written in independent form and further specifies the nature of the surfactant paste as well as preferred ranges for the various operating and compositional parameters used in the overall process, as well as a drying step (f).

Claim 12 specifies freedom from gas-forming ingredients.

Claim 13 specifies a ratio of particular surfactants.

Claim 14 specifies the absence of acidic contaminants.

Claim 15 is a detergent product prepared by the process of Claim 1.

Claim 16 is a detergent product prepared by the process of Claim 11.

## **VI. ISSUES**

1. Whether Claims 1 and 3-16 are patentable over U.S. 5,574,005 under 35 U.S.C. 103(a).
2. Whether Claims 15 and 16 are patentable over U.S. 5,691,297 under 35 U.S.C. 103(a).

## **VII. GROUPINGS OF THE CLAIMS**

Appellants admit that, for the purposes of the Appeal, all claims in their current format stand or fall together.

## **VIII. ARGUMENTS**

As set forth below, the invention defined in the appealed claims is not obvious over the cited patents under 35 U.S.C. 103, as a matter of law, whereby the rejections should be refused.

**A. U.S. 5,574,005 and 5,691,297 are not proper references against the instant application. Moreover, neither patent teaches or suggests the operating parameters which define steps (a) and (b) of the instant claims. Nor do the patents motivate the skilled artisan to modify their teachings to arrive at said parameters.**

### **1. The Examiner's Position**

With regard to claims 1 and 3-16, the Examiner asserts that U.S. 5,574,005 teaches a multi-step detergent manufacturing process comprising: (a) providing a non-linear viscoelastic detergent paste; (b) regulating the amount of sodium carbonate in the paste; (c) charging the paste into a densifier/mixer; (d) inputting a detergency builder; and (e) agglomerating the paste + builder. The Examiner further asserts that this patent teaches various operating parameters, e.g., elevated temperatures for the paste and use of carbonate and/or hydroxide buffers, in order to overcome problems with maintaining the viscoelasticity of the paste.

The Examiner does note, however, that this patent fails to disclose an example where the surfactant paste containing sodium hydroxide is regulated at the recited temperature range. (Paper No. 6, page 4.)

The Examiner concludes that it would have been obvious at the time the invention was made to have regulated the temperature of the surfactant paste containing sodium hydroxide, in view of U.S. 5,574,005.

With regard to Claims 15 and 16 the Examiner further asserts that U.S. 5,691,297 teaches a high density detergent composition comprising 21.6 wt.% C<sub>14</sub>-C<sub>15</sub> alkyl sulfate, 7.2 wt.% C<sub>12.3</sub> linear alkylbenzene sulfonate, 32.4 wt.% aluminosilicate and 0.5 wt.%

polyethylene glycol. The Examiner admits that this patent, however, fails to disclose the recited process for preparing such composition. (Paper No. 9, page 4.) Still, the Examiner concludes that the assertedly substantially similar art-disclosed product renders obvious the product made under the herein-recited process limitations.

## 2. The Appellants' Position

At the outset, it is Appellants' position that neither the 5,574,005 patent nor the 5,691,527 patent is a proper reference against any claims of the instant Application. The instant Application carries an original filing date of April 17, 1996 for its parent Provisional Application, with named inventors David Scott Bohlen, Michael Chris Jensen, Lester John Hollihan and Scott William Capece. The 5,574,005 patent was filed March 7, 1995 and was granted November 12, 1996. The four named inventors include Lester J. Hollihan, i.e., a named inventor in the instant Application. The 5,691,297 patent carries a filing date of September 19, 1995 and a grant date of November 25, 1997. The two named inventors include Scott William Capece, i.e., a named inventor in the instant Application. Both the '005 patent and the '297 patent were co-pending with the instant Application and carry disclosures regarding detergent manufacture that have substantial similarity to the instant Application, whereas the instant Application further contains additional disclosures (as discussed below) not contained in these patents. Accordingly, the instant Application could claim C-I-P status from both of said patents. In such event, the patents cannot be applied against the instant Application under 35 U.S.C. 103.

With regard to Claims 1 and 3-16, and even assuming *arguendo* that the cited patents could be applicable as references, they still do not suggest the present invention in the sense of 35 U.S.C. 103. The 5,574,005 patent admittedly relates to a process for manufacturing detergent compositions by agglomerating a concentrated surfactant "paste" with ingredients such as builders. The patent explains in considerable detail the rheological properties of the non-linear viscoelastic pastes used therein. (Cols. 3-4) At Column 4 (**Process**) through Column 5, the composition of the paste is described in detail.

At Column 5, lines 31-33, the patent teaches, "Also included in the surfactant paste are minor ingredients such as unreacted acids, sulfates and the like."

In sharp contrast, the present invention requires that the paste contain "...an excess amount of alkali metal hydroxide such that the pH of said surfactant paste is at least about 10...." (Claim 1) Claim 10 specifies that the surfactant paste be maintained, "...substantially free of contaminant materials having a pH of less than 7." Why? Because such acidic materials facilitate the hydrolysis of the paste (Specification, page 7, first paragraph), especially if gas-formers such as carbonate, percarbonate or perborate are present.

The Examiner takes the view that the patent admits of such materials (e.g., carbonate) in the paste in small amounts which are not outside the scope of the "substantially free" language of the present claims. However, as noted above, the patent also admits of the presence of free acids, which cannot be in the Claims on Appeal since the excess base and specified pH of at least about 10 would not allow for their existence as acidic materials. Notably, 5,574,005 is silent on the pH of the paste.

Moreover, the paste herein must be regulated at a temperature of from about 50°C to about 80°C to achieve processability and stability for a reasonable time. The 5,574,005 patent fairly suggests that maintaining high temperatures may be problematic. (See Col.2, first paragraph.) In any event, control of temperatures within the herein-recited range is not fairly suggested as a solution to the rheological problems when associated with the other operating parameters recited in steps (a) and (b) of Claim 1 and Claim 11.

To summarize:

- i) The 5,574,005 patent admits of the presence of acidic materials in the paste, while the Claims on Appeal do not;
- ii) The Claims on Appeal require a specified pH of the paste, while the 5,574,005 patent does not; and
- iii) The Claims on Appeal require temperature regulation, while the 5,574,005 patent does not.

Moreover, it is submitted that nothing in 5,574,005 teaches or suggests its modification to arrive at such parameters.



It is basic patent law that the rejections of the present invention under 35 U.S.C. § 103 must comport with the classic standard set forth in *Graham v. John Deere Company* 383 US 1, 148 USPQ 459 (1966), codified in MPEP Section 706. The Supreme Court's guidance in that landmark case requires that, to establish a *prima facie* case of obviousness, the USPTO must:

- (1) Set forth the differences in the claims over the applied references;
- (2) Set forth the proposed modification of the references which would be necessary to arrive at the claimed subject matter; and
- (3) Explain why the proposed modification would be obvious.

To satisfy Step (3), the Patent Office must identify where the prior art provides a motivating suggestion to make the modification proposed in Step (2). See *In re Jones*, 958 F2d 347, 21 USPQ 2d 1941 (Fed. Cir. 1992). The mere fact that the prior art may be modified does not make the modification obvious unless the prior art suggests the desirability of the modification. See *In re Fritch*, 972 F2d 1260, 23 USPQ 2d 1780 (Fed. Cir. 1992).

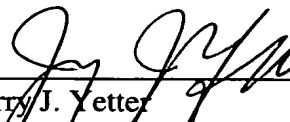
Clearly, there is no motivation in 5,574,005 to modify its teachings to arrive at the acid-free, pH-defined, temperature-controlled operating parameters of the instant claims.

With regard to Claims 15 and 16, it is again noted that U.S. 5,691,297 is not a proper reference against the claims of the instant Application. Even assuming *arguendo* that it could be a reference, the operational parameters which reside in these claims by virtue of their dependency from Claims 1 and 11, respectively, are neither taught nor suggested by '297. Said another way, such processing parameters lend patentability to the resulting products, as claimed.

#### **IX. CONCLUSION**

For the foregoing reasons, the rejections of Claims 1 and 3-16 under 35 U.S.C. 103 is erroneous and should be reversed.

Respectfully submitted,



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(513) 627-2827

May 16, 2001  
Cincinnati, Ohio  
(6065 appealbrief)

## APPENDIX

1. A process for preparing detergent agglomerates comprising the steps of:

- (a) providing a non-linear viscoelastic surfactant paste including, by weight of said surfactant paste, from about 70% to 95% of a deterative surfactant, from about 5% to about 30% of water, and an excess amount of an alkali metal hydroxide such that the pH of said surfactant paste is at least about 10, and wherein said surfactant paste is substantially free of materials which produce a gas when reacted with an acid, said materials being carbonates, percarbonates and perborates;
- (b) regulating the temperature of said surfactant paste within a range of from about 50°C to about 80°C so that said surfactant paste is processable and stable for at least 48 hours;
- (c) charging said surfactant paste into a high speed mixer/densifier;
- (d) inputting from about 1% to about 70% by weight of a detergency builder into said high speed mixer/densifier; and
- (e) agglomerating said surfactant paste and said builder by treating said surfactant paste and said builder initially in said high speed mixer/densifier and subsequently in a moderate speed mixer densifier so as to form said detergent agglomerates.

3. The process according to Claim 1 wherein said alkali metal hydroxide in said surfactant paste is sodium hydroxide.

4. The process according to Claim 1 wherein said deterative surfactant is a mixture of alkyl sulfate and linear alkylbenzene sulfonate surfactants in a weight ratio of from 1:1 to 5:1.

5. The process according to Claim 1 further comprising the step of drying said detergent agglomerates.

6. The process according to Claim 1 wherein said detergency builder is aluminosilicate.

7. The process according to Claim 1 wherein said regulating step renders said surfactant paste stable for at least 72 hours.

8. The process according to Claim 1 wherein said regulating step includes the step of maintaining said surfactant paste stable for at least 170 hours.

9. The process according to Claim 1 wherein said regulating step includes the step of maintaining said surfactant paste within a temperature of from 60°C to 75°C.

10. The process according to Claim 1 further comprising the step of maintaining said surfactant paste substantially free of contaminant materials having a pH of less than 7.

11. A process for preparing detergent agglomerates comprising the steps of:

- (a) providing a non-linear viscoelastic surfactant paste including, by weight of said surfactant paste, from about 70% to 80% of a mixture of C<sub>14-15</sub> alkyl sulfate surfactant and C<sub>12-13</sub> linear alkylbenzene sulfonate surfactant, from about 15% to about 20% of water, from about 2% to about 8% of polyethylene glycol, and from about 0.5% to about 1% of sodium hydroxide such that the pH of said surfactant paste is at least about 11, and wherein said surfactant paste is substantially free of materials which produce a gas when reacted with an acid, said materials being carbonates, percarbonates and perborates;
- (b) regulating the temperature of said surfactant paste within a range of from about 65°C to about 70°C so that said surfactant paste is processable and stable for at least 120 hours;
- (c) charging from about 25% to about 65% by weight of said surfactant paste into a high speed mixer/densifier;
- (d) inputting from about 1% to about 70% by weight of a detergency builder into said high speed mixer/densifier;
- (e) agglomerating said surfactant paste and said builder by treating said surfactant paste and said builder initially in said high speed mixer/densifier and subsequently in a moderate speed mixer/densifier so as to form said detergent agglomerates; and
- (f) drying said detergent agglomerates.

12. The process of Claim 11 wherein said surfactant paste is substantially free of materials which produces a gas when reacted with an acid.

13. The process of Claim 11 wherein said alkyl sulfate surfactant and said linear alkylbenzene sulfonate surfactant are included in said surfactant paste in a weight ratio of about 3:1.

14. The process of Claim 11 further comprising the step of maintaining said surfactant paste substantially free of contaminant material having a pH of less than about 7.

15. A detergent composition comprising detergent agglomerates made according to the process of Claim 1.

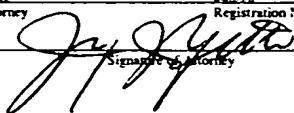
16. A detergent composition comprising detergent agglomerates made according to the process of Claim 11.

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